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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,145	03/29/2006	Leendert Van Der Tempel	GB 030180	3766
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EXAMINER				
PEACE, RHONDA S				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/574,145

Applicant(s)

VAN DER TEMPEL, LEENDERT

Examiner

Rhonda S. Peace

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Response to Arguments

Upon further consideration, the indicated allowability of claim 4 is withdrawn in view of the reference Green (US 2002/0068389). Rejections based on the newly cited reference follow. Therefore, the finality of the Office Action mailed 10/15/2008 is withdrawn, and claims 4-17, submitted 12/11/2008, have been entered into the record.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the corrugated topography of the third layer, as recited in claim 4, must be shown or the feature(s) canceled from the claim(s). Support for this limitation is shown on page 10, lines 14-16 of the current specification. However, none of Figures 1-6, submitted 3/29/2006, show the combination of a first flexible layer, a second corrugated layer and a third corrugated layer as required by claim 4. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 12 is objected to because of the following informalities: The preamble of claim 12 is incomplete. Appropriate correction is required.

Claim 15 is objected to because of the following informalities: Claim 15 is dependent upon cancelled claim 2. For purposes of examination, claim 15 is considered as dependent upon claim 4. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 4, 6-10, 12 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Green (US 2002/0068389).

Pertaining to claims 4, 6, 7 and 17, Green discloses a device comprising a first corrugated flexible layer 2, a second corrugated layer comprising portions 12 and 16 in contact with the first layer 2 along its length so as to prevent fracture of the second layer

portions 12 when the first layer 2 is deformed, and a third corrugated layer 18 in contact with the first layer 2, wherein the third layer 18 comprises a substrate, the first layer 2 comprises a coating on the third layer 18, and the second layer portion 16 is a coating on the first layer 2. See ¶¶ 0035-0038 and 0046-0047. The device may be used to form a display. See ¶ 0050.

Addressing claims 8-10 and 12, the second layer, specifically portion 16 of the second layer, comprises a series of adjoining troughs and ridges, each trough and ridge including flat portions, wherein the widths of the flat portions are selected to prevent fracture when the first layer is deformed, thereby maintaining a proper electrical connection between elements 12, as portion 16 is electrically-conducting and highly flexible. See Figure 1D, ¶ 0038. Cracks 22 may be provided along the length of the first layer 2 to improve its flexibility, and are formed by flexing the first layer 2. See Figure 1D, ¶ 0038. As seen in Figures 1C and 1B, the widths of the substantially flat portions of portion 16 of the second layer are selected to be less than a predetermined length, wherein the predetermined length is the average length between cracks 22 of the first layer 2.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Green (US 2002/0068389), in further view of Wilk et al (US 4,451,596).

Pertaining to claim 5, Green discloses the device as described above. Green discloses the first layer is formed of a material, wherein the material is chosen to give the desired flexibility for the application. See Green, ¶ 0039. However, Green does not disclose the use of acrylate lacquer as the material used to form the first layer. Wilk et al discloses acrylate lacquers, wherein the flexibility of the lacquer is based upon the monomers used in the lacquer. See Wilk et al, col. 3 lines 66-68. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use acrylate lacquer as the material for the first layer, as the level of flexibility of acrylate lacquer may be easily adjusted, thereby allowing the device of Green to have applicability to several types of devices, such as LCD devices. See Wilk et al, col. 3 lines 66—68, and col. 4 lines 1-7. Moreover, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416.

Claim 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Green (US 2002/0068389), in further view of Harari et al (US 5,786,988).

Addressing claims 11 and 13, Green discloses the device as described above, including the conducting portions 16 which follows the square-cut grooves 4 of the first layer 2, thereby resulting in a geometry where portions 16 exhibit adjoining troughs and ridges which have substantially flat portions. Green does not disclose the adjoining troughs and ridges as further including curved transitions between the troughs and ridges, for example, when the grooves in the first layer are curved. Harari discloses integrated circuit chips formed on a flexible substrate, wherein the substrate 121 is formed with circular grooves 123. See Figure 9, col. 5 lines 66-67 and col. 6 lines 1-5. It would have been obvious to one of ordinary skill in the art to use curved grooves, as taught by Harari et al, in the device as taught by Green, thereby resulting in a conductive portion having troughs, ridges, and curved transitions between the troughs and ridges, as Harari et al discloses curved grooves are preferable over grooves having sharp edges (such as square-shaped or triangular-shaped grooves) as the stresses resulting from bending the circuit chip are less concentrated. See Harari et al, col. 6 lines 25-31.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Green (US 2002/0068389), in further view of Gehring et al (US 2002/0163722).

Concerning claim 14, Green discloses the device as described above. Green discloses the third substrate layer is formed of a plastic or polymer material. See Green, ¶ 0038. However, Green does not disclose the use of polyvinyl chloride as the

material used to form the third substrate layer. Gehring et al discloses the use of polyvinyl chloride to form a flexible substrate. See Gehring et al, ¶ 0088. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use polyvinyl chloride as the material for the third substrate layer, as polyvinyl chloride provides the flexibility required to form a flexible display, and also polyvinyl chloride is a transparent material, thereby increasing the brightness of a backlit LCD display formed by the device of Green. See Gehring et al, ¶ 0088. Moreover, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Green (US 2002/0068389), in further view of Celinska et al (US 2002/0087018).

With regard to claims 15 and 16, Green discloses the device as described above. Green states the second layer, specifically portion 16 of the second layer, may be formed by copper or nickel. See Green, ¶ 0047. However, Green does not disclose the electrically-conductive connector 16 as being formed from a transparent conductor, specifically a conductive oxide. Celinska et al discloses an electrically-conductive transparent oxide (ITO) used to form a conductor 436 on a substrate 434. See Celinska et al, Figure 4, ¶ 0048. It would have been obvious to one of ordinary skill in the art to form the electrically-conductive connector of Green from ITO as disclosed by Celinska et al, ITO provides the proper electrical conduction while being transparent such that brightness in a backlit display incorporating the ITO conductor is enhanced, as the ITO conductor does not block any light signals. See Celinska et al, ¶ 0048. Moreover, it has

been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416.

Conclusion

The following art made of record and not relied upon is considered pertinent to applicant's disclosure: Rogers et al (US 2008/0157235), Van Dam et al (US 2007/0115572), Cross et al (US 2004/0012570), Hedler et al (US 2003/0080425), Takada et al (US 6,291,761), Li et al (US 5,998,738), and Kosaki et al (US 6,245,596).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda S. Peace whose telephone number is (571)272-8580. The examiner can normally be reached on M-F (8-5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Uyen-Chau Le can be reached on (571) 272- 2397. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Rhonda S. Peace/
Examiner, Art Unit 2874

/Michelle R. Connelly-Cushwa/
Primary Examiner, Art Unit 2874